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## ABSTRACT

The Management Sciences Training Center has among its objectives the following: (1) to provide responsive and practical interagency and intergovernmental training and developmental programs in specialized disciplines used and technical elements involved in the management of public programs, (2) to provide management sciences training support to Civil Service Regional Training Institutes, (3) to provide advice and assistance to individual agencies attempting to improve their management systems, (4) to stimulate the exchange of information about innovative ideas originating within the professional communities, and (5) to assist in the management and administration of special intern and fellowship programs. This document contains the curriculum and schedule for the semester of January-June 1972. A total of 26 courses is offered. A description of each course's content and the tuition fee are given. (CK)

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# THE MAN. SCIENCES TRAINING CENTER

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*Announces*

## THE SCHEDULE

*for*

*January - June 1972*



UNITED STATES CIVIL SERVICE COMMISSION  
BUREAU OF TRAINING

12/62

## T H E   C E N T E R

The Management Sciences Training Center was formally established as of July 1, 1970. The Center was formed by adding to the existing Financial Management and PPB Training Center certain closely related management subjects which had previously been taught by other Centers in the Bureau of Training; namely, operations research, management information systems, and management analysis.

These activities have been integrated into a single training center in order to provide better service to our customers and to broaden the base of faculty competence.

The Center has the following objectives:

- to provide responsive and practical interagency and intergovernmental training and development programs in specialized disciplines used and technical elements involved in the management of public programs; and to focus on the development of critical communication links between the manager and the information-producing specialist;
- to provide Management Sciences training support to Civil Service Commission Regional Training Institutes;
- to provide advice and assistance to individual agencies, state, municipal and local governments attempting to reform and improve their management systems, financial programs, and analytic capabilities;
- to stimulate, encourage, and participate in the exchange of information about the most significant and innovative ideas originating within the professional communities; and
- to assist in the management and administration of special intern and fellowship programs.

The Management Sciences Training Center currently concentrates its training effort on programs for users and specialists in four areas:

FINANCIAL MANAGEMENT TRAINING courses provide basic and follow-up financial management training in budgeting, accounting, and auditing, with particular emphasis on management's use of information generated by these specialized disciplines and procedures. Included in this group are general concepts seminars, and applications-oriented programs and workshops.

MANAGEMENT ANALYSIS TRAINING provides an opportunity for the experienced analyst to sharpen old skills or acquire new ones. In addition, the complete range of courses available or under development in this curriculum area provide an opportunity for the beginning analyst to acquire those skills characterizing the journeyman analyst. Center personnel can provide consultative services to individuals or organizations wishing to establish career development programs in Management Analysis.

THE MANAGEMENT SCIENCES  
TRAINING CENTER

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INFORMATION METHODS TRAINING programs offer core skills training in fundamental disciplines of mathematics, statistics, quantitative analysis, and management information systems. Orientations, seminars, and workshops are used extensively in this area of training for managers, senior specialists and other professionals.

PROGRAM ANALYSIS TRAINING is oriented toward the needs of the producer of analysis, both the neophyte and the professional. Courses range from training in basic and broadly used analytic techniques to specific applications. Seminar-type programs and workshops are included in this group of courses.

## SPECIAL CAPABILITIES

### ON-SITE TRAINING

Any of the courses listed in the schedule can be presented at a training site convenient to the customer provided there are sufficient students to make such a relocation feasible. Ordinarily, on-site courses would be in addition to the regular schedule to avoid inconvenience to participants planning to attend courses located at the Commission. Anyone wishing to arrange for on-site training should make special arrangements with the Director well in advance of the anticipated date.

### CUSTOMIZED TRAINING PROJECTS

While the main thrust of Center activities is directed to the presentation of the scheduled courses on an interagency basis, this does not preclude the development of special purpose programs. Each proposed special program will be considered individually on its merits and must clearly fall within the following limitations: the program must meet legal and administrative requirements, the Center must be the best source for the proposed service, and the proposed activity must represent the best alternative use of the Center's resources.

Examples of special training programs developed within the above criteria are: a course in Planning for Special Education, developed for the Office of Education and presented to State Directors of Special Education at seven cities around the Nation; a one-month training program for eighteen Peace Corps volunteers designed to assist them in installing a management information system for Malaysia.

Special training programs are presented on a reimbursable basis under contract with the sponsoring agency. For the convenience of anyone contemplating such a program, the Center can provide advice on feasibility and approximate cost prior to entering into a firm agreement.

### CONSULTING SERVICES

The Center can provide consulting services in areas of our particular competence.

These include the substantive areas listed on the back of the Schedule. In addition, the Center can draw on its vast body of experience to provide assistance in establishing training programs in these areas.

We have provided extensive consultative services in areas as diverse as the design of information collection procedures for planning, to the design of a program budget. Specific examples include such diverse elements as the design of a PPB course for the University of Maine and on-site consultations with the West German government on problems attendant on the establishment of a comprehensive PPB system.

Consultative services are reimbursable--salary, per diem and overhead--and can be arranged by contacting the Director.

## THE CURRICULUM & SCHEDULE

### ANALYSIS TRAINING

#### MANAGEMENT ANALYSIS TRAINING

##### ELEMENTS OF MANAGEMENT ANALYSIS

A five-day course at the most basic level to prepare employees for the more advanced courses in the management analysis series. Among topics to be covered are: management analysis, organization theory, data collecting, basic mathematics and statistics, report writing, and scheduling. This course is recommended for non-professional employees who have demonstrated through diligence, enthusiasm, and efforts at self-development, a potential for advancement into a professional position. Elements of Management Analysis can serve as an entry vehicle to more advanced courses and eventual full professional status as a management analyst.

Tuition: \$225

Schedule: February 14-18  
March 27-31  
May 1-5  
June 5-9

##### MANAGEMENT ANALYSIS AND REVIEW

A five-day course designed to provide the new management analyst with the methodology of conducting a management analysis study. The course material is supplemented with a comprehensive case study in management analysis. Topics covered include: the role of management analysis, definition of management problems, generation of alternative solutions to problems, fact gathering for analysis, the report, installation, and follow-up.

Tuition: \$250

Schedule: February 7-11  
April 3-7  
June 12-16

##### NETWORK TECHNIQUES FOR PROJECT MANAGEMENT

A three-day course designed to give those involved in projects a working knowledge of the techniques for planning, scheduling, and controlling projects. Case studies will supplement the course materials to give the participants practice in the techniques. Topics include: setting project objectives, dividing the project into its component parts, scheduling time and resources, and controlling

time and resources. Participants are taught a simplified network techniques which requires no knowledge of statistics.

Tuition: \$175

Schedule: February 23-25  
May 31-June 2

#### PROBLEM DEFINITION FOR MANAGEMENT

The first and crucial step of any analysis is problem definition. The analyst will learn how to structure a problem within a system framework so that he can isolate it, separate symptoms from causes, and foresee potential problem areas. There will be several cases of increasing difficulty in which the analyst may test his skills.

Tuition: \$175

Schedule: March 1-3  
April 26-28  
June 28-30

#### VALUE ANALYSIS FOR MANAGEMENT SYSTEMS

A five-day introduction and workshop in Value Analysis as applied to systems and procedures (also known as "software" areas). The course is designed to instill the motivation and the know-how for examining management systems to achieve objectives at a lower cost. The rationale behind Value Analysis and the value analysis job plan is presented. A workbook which details concepts and the methodology is provided to each participant. Selections will be made from among live projects suggested by participants to make the connection between theory and practice.

Tuition: \$250

Schedule: January 31-February 4  
May 15-19

#### WORK SIMPLIFICATION TECHNIQUES

A five-day course designed primarily for management analysts and analyst trainees who wish to learn the partical process of work simplification. The course will be equally valuable to industrial engineers, office managers, personnel administrators, position calssifiers, and job designers. Participants will become familiar with work simplification techniques with emphasis on applications in service oriented activities. Strengths and weaknesses of each technique will be discussed and reinforced during workshop participation. Along with the systematic work simplification procedures of problem identification, analysis and improvement; considerable emphasis will be placed on ways to get new ideas



accepted. Subjects covered will include: principles of motion economy, workflow analysis, overcoming resistance to change, inducing new attitudes, stimulating creativity, installing and following up on new methods, and inter-related subjects.

Tuition: \$225

Schedule: March 6-10  
May 22-26

#### WORKFORCE ESTIMATING

A three-day course designed to introduce estimating techniques, and to teach participants a simple statistical estimating technique recommended by the Office of Management and Budget. Participants will be taught to understand, utilize, and interpret results of regression analysis in manpower and workload estimation. Other work measurement techniques will be discussed, and applications of techniques will be demonstrated through a workshop application.

Tuition: \$175

Schedule: January 19-21  
March 1-3  
April 10-12  
June 12-14

#### WORKSHOP IN PROCESS FLOW CHARTING

A five-day course for management analysts and analyst trainees, designed to bring participants up to a full professional level of proficiency in process flow charting. The ability to produce accurate and fully documented work process flow charts is a basic skill of the analyst. Using symbolism approved by the American Society of Mechanical Engineers, participants will, through a combination of classroom and field experience, develop and sharpen their skills with this basic tool for analysis and communication. Subjects covered will include: basic symbolism, chart construction, field data collection, transformation of field data to finished charts, analysis of findings, development and charting of work process improvements, and presentation to management.

Tuition: \$250

Schedule: January 24-28  
April 17-21

#### PROGRAM ANALYSIS TRAINING

##### BASIC DATA ANALYSIS

A three-day course designed to prepare participants for quantitatively oriented

and technical courses; provide a review of basic mathematics; and provide an understanding of the need for quantification and the world of numbers. Subject matter includes: quantification, language of sets, basic algebraic operations, mathematical notation, notation of a function, and introduction to mathematical models and sampling.

Tuition: \$175

Schedule: April 17, 19, 21  
June 19, 21, 23

#### CORRELATION AND REGRESSION ANALYSIS

A five-day course designed to enable an analyst or program manager to: recognize problems that can be analyzed by correlation and regression analysis; understand the computational methods involved; formulate problems in correct form for solution; and compute solutions to formulated problems. An exercise will be conducted in computer use for computation of the analysis.

Tuition: \$325

Schedule: May 1-5

#### COST/BENEFIT WORKSHOP

A five-day course designed to provide instruction in the basics of cost/benefit analysis, with a maximum amount of participation in actual analysis and a minimum amount of philosophy consistent with understanding. Several case exercises take up about half the course workshop. Topics covered include: the setting for analysis; criteria problems and output measures; problem formulation and systems identification; the process of analysis; model building and use; present value, discounting, and other time problems in analysis; cost and benefit identification and calculation; standards for reviewing analysis; and the economics of public program analysis.

Tuition: \$225

Schedule: January 31-February 4  
April 24-28  
June 19-23

#### COST ESTIMATING TECHNIQUES

A five-day course to provide participants with an understanding of the techniques for estimating costs of future programs and the capability to apply these techniques to their own operations. Participants will learn methods for costing and analyzing current and proposed programs through the use of demonstration cases and guided workshops. Subjects include: regression and correlation analysis, time series, improvement curves, and index numbers. Limitations and assumptions

within the management context will be highlighted.

Tuition: \$250

Schedule: March 20-24  
May 15-19

#### DISCOUNT RATES AND PROCEDURES

A one-day course to instruct managers and program analysts in the proper application of discount rates to projected cost and benefit streams of alternative programs. For purposes of comparison, the anticipated costs and benefits of all major government investments must be reduced to a level of present value through the application of appropriate discount rates. This course will discuss the question of the appropriate rates, explain the concept of present value, and equip participants to derive present value through the use of standard discount tables.

Tuition: \$60

Schedule: February 29

#### ECONOMIC INVESTMENT ANALYSIS

A four-day course covering the major elements involved in economic investment analysis of Department of Defense projects. Lectures, case studies, and discussion groups cover such topics as: discounted cash flow, cost analysis, treatment of inflation and uncertainty, decision criteria, and preparation and presentation of economic investment analyses. Although cases and examples are drawn from Defense, the principles and techniques are applicable to all government programs using economic analysis. Participation is open to civilian and military personnel in the middle or upper levels of management, administration, or budgeting in government.

Tuition: \$175

Schedule: January 11-14  
February 22-25  
April 4-7  
May 30-June 2

#### EDUCATIONAL PROGRAM IN SYSTEMS ANALYSIS

A program of one academic year in length conducted at several universities. It is designed to train analysts of public programs in techniques such as economic analysis, operations research, and the systems approach. The nominating procedures generally begins in the agency during the fall, with nominations due at the Civil Service Commission by early February. The program begins at the universities in late August or in September. Nominations are not made in the way

described elsewhere in this publication. A brochure with detailed information is available by writing to the Office of Career Development Programs, Training Assistance Division, Bureau of Training, U.S. Civil Service Commission, Washington, D. C. 20415, or by telephoning (202) 632-7624.

#### EFFECTIVE PLANNING TECHNIQUES

A five-day course designed to help anyone concerned with planning take an informed, active approach to making current decisions which have significant effects on an agency's future. The course will consist of short problems in planning, lectures on the planning process and useful techniques for that process, and exercises in those techniques. The course is intended to provide the connection between the abstract recognition of the value of planning and the specific methods useful in planning.

Tuition: \$225

Schedule: February 14-18  
June 5-9

#### PLANNING, PROGRAMING, AND BUDGETING SEMINAR

A two-week course designed to provide a grasp of the economic base of PPB, a working knowledge of the structure and operation, and an exposure through case work to analysis. The program provides an in-depth study of essential elements of PPB and extensive participant involvement in small group work sessions.

Tuition: \$375

Schedule: May 8-19

#### PROGRAM EVALUATION TECHNIQUES I

This will be the first of two three-day courses designed to assist those involved in program management, analysis, and evaluation. Basic philosophy, methods, and techniques of program evaluation will be presented.

Tuition: \$175

Schedule: January 26-28  
March 13-15  
June 14-16

#### PROGRAM EVALUATION TECHNIQUES II

This is the second of two three-day courses designed to assist those involved in program management, analysis, and evaluation. The subject matter here consists

of frequently used techniques of program evaluation.

Tuition: \$175

Schedule: March 27-29  
June 28-30

## FINANCIAL MANAGEMENT TRAINING

### ACCOUNTING FOR CONTRACT & PROCUREMENT PERSONNEL

This five-day course is designed to acquaint contract and procurement personnel with the financial aspects of contract administration and negotiation. It is intended to add a new dimension to the contracting or procurement person's expertise in dealing with finance and accounting related problems in private industry. This basic course is intended primarily for those personnel who do not possess extensive formal education in accounting and finance. Topics include: interpreting financial statements, recording transactions, internal control, audit, allowable direct and indirect costs, contract types, terminations, roles of GAO and DCAA, and government reporting.

Tuition: \$225

Schedule: January 17-21  
March 6-10

### ACCRUAL ACCOUNTING PROCEDURES IN FEDERAL AGENCIES

This three-day course will facilitate the transition to Governmental Accounting for those persons whose past accounting experience or training has been in the private sector. It will acquaint the participant with "fund accounting" procedures for those transactions which have no counterpart in the private sector (i.e., allotments, apportionments, commitments, and obligations). Two case studies, the "Illustrative Agency" and the "Representative Agency" will be the nucleus of this course. These two practice cases will demonstrate how typical transactions are recorded in double-entry form, their effect on various accounts, and the resulting financial statements (i.e., the Statement of Financial Position, the Statement of Operations, and the Statement of Changes in Government Equity).

Tuition: \$175

Schedule: January 17-19  
February 23-25  
March 20-22  
April 17-19  
May 15-17  
June 19-21

### ACCRUAL ACCOUNTING WORKSHOP

A five-day course organized around the three steps in GAO's review process of proposed accounting systems--development of principles and standards; design of

the system; and using the system for financial management within the agency. Concepts and principles are demonstrated through the use of workshops and cases.

Tuition: \$225

Schedule: January 24-28  
March 27-31  
May 22-26

#### BUDGET FORMULATION

This five-day course will begin with a description of Federal budgeting, the pertinent laws and directives that pertain to agency budget formulation and discussion of the purposes and uses of budgets. The major content of the course will be concerned with the data collection, inputs and calculations that are required in the compilation of the operating budgets. Workshop problems will be the nucleus of this course. Participants will prepare documents that are submitted to the agency budget divisions, and compile the formats as required by OMB Circular A-11. The concluding portion of the course will walk the participant through the remainder of the budget process. (NOTE: This course and the BUDGET PRESENTATION AND JUSTIFICATION are closely related. Together the courses will be a continuum covering the budget from formulation through enactment of the appropriation act. However, the courses may be taken independently.)

Tuition: \$225

Schedule: February 28-March 3  
May 1-5  
June 26-30

#### BUDGET PRESENTATION AND JUSTIFICATION

This eight-day course will be conducted over a two-week time span to enable the student to return to his job site one day each week. The first of the workshops in this course will begin with a session very similar to the final one in BUDGET FORMULATION: i.e., it will compile numerical data in the required formats. It will then continue the process by developing the narrative and presentation methodology for use in budget justification, both for OMB examiners and Congressional staff. Topics will cover such matters as back-up data, dealing with examiners, preparing for hearings, understanding the political implications, etc. This course will take the agency budget from the Budget Office through OMB and the Congress. (See note under BUDGET FORMULATION.)

Tuition: \$275

Schedule: January 31-February 3 & February 7-10  
April 24-27 & May 1-4  
June 5-8 & June 12-15

## THE FEDERAL BUDGET PROCESS

This two-day course is designed to provide an understanding of the budget process. It will be helpful particularly for those working in a professional capacity who are relatively new to the Government. Subject matter includes the function, history, and procedures of the Federal Budget Process.

Tuition: \$95

Schedule: January 20-21  
February 17-18  
March 23-24  
April 20-21  
May 18-19  
June 22-23

## FINANCE IN AGENCY MANAGEMENT

A five-day program focusing on the interrelationships of the financial specialties and their use in the internal management of an agency's programs. Designed to serve persons advancing to more responsible positions in the field of financial management, and persons assigned to non-financial positions who have need for a better understanding and appreciation of financial management.

Tuition: \$225

Schedule: January 31-February 4  
April 3-7  
June 5-9

## FINANCIAL MANAGEMENT IN THE FEDERAL GOVERNMENT

This program for Management Interns examines the roles of the various branches and agencies of government concerned with financial and fiscal matters at the Federal level. Course content includes formation, presentation, and execution of the National Budget; the framework for accountability of public resources; and the role and application of management audits. Participants are also introduced to the use of program analysis and evaluation as essential tools in public sector decisions relating to financial management.

Tuition: \$105

Schedule: February 23-25

## GOVERNMENTAL BOOKKEEPING AND ACCOUNTING

A five-day course that deals with the "how and why of bookkeeping;" fundamental bookkeeping records; "debits and credits," the essence of double-entry bookkeeping; fund and account structure in the public sector; and resulting financial



reports. Bookkeeping principles covered in this course are compatible with recent recommendations of the President's Commission on Budget Concepts (i.e., Accrual Accounting). Lectures are used to introduce and explain topics. However, most of the course is devoted to demonstrating how typical transactions are recorded in double-entry form, and their effect on various accounts. The participants will apply the principles and procedures covered in the course to case studies describing typical Government transactions.

Tuition: \$195

Schedule: January 10-14  
February 14-18  
March 13-17  
April 10-14  
May 8-12  
June 12-16

#### MANAGEMENT USE OF FINANCIAL INFORMATION

The objective of this three-day course is to provide program decision-makers with a better understanding of financial information presently and potentially available to them. Attention is focused on the relevance of specific types of information necessary for management control, performance evaluation, and performance measurement.

Tuition: \$175

Schedule: February 9-11  
April 26-28  
June 28-30

#### PRACTICE PROBLEMS IN GOVERNMENTAL ACCOUNTING

The practice problems (frequently referred to as a "practice set" in the academic community) will provide a realistic environment complete with facsimile documents, records, and forms. Course material will include a description of daily transactions for an entire fiscal year. The students will be required to:

1. Prepare and process documents and forms required for specialized transactions.
2. Record transactions in books or original entry (journals), using both the General Journal and specialized books or original entry (e.g., Cash Receipts Journal, Cash Disbursements Journal, Billing Register, and Voucher Register).
3. Post journal entries to both the General Ledger Accounts and Subsidiary Ledger Accounts.
4. Make the necessary periodic adjustments, reconciliations, and other analysis.

5. Prepare a working paper trial balance.

6. Prepare the three fundamental financial statements (i.e., the Statement of Financial Position, the Operating Statement, and the Statement of Changes in Government Equity).

The problems then will illustrate the daily financial transactions of a typical Federal agency, and students will get involved in all phases of the accounting cycle in a simulated but realistic work environment.

Tuition: \$200

Schedule:

Classes will be held one day a week over a eight-week period. Participants will use the time between classes to complete work assignments for discussion in ensuing classes. Four offerings are scheduled, two convening on Mondays and the other two on Fridays. The schedule for each offerings follows:

|                 | Mondays        | Fridays | Mondays  | Fridays  |
|-----------------|----------------|---------|----------|----------|
| Initial Class   | Jan. 10        | Jan. 14 | March 27 | March 31 |
| Ensuing Classes | Jan. 17        | Jan. 21 | April 3  | April 7  |
|                 | Jan. 24        | Jan. 28 | April 10 | April 14 |
|                 | Jan. 31        | Feb. 4  | April 17 | April 21 |
|                 | Feb. 7         | Feb. 11 | April 24 | April 28 |
|                 | Feb. 14        | Feb. 18 | May 1    | May 5    |
|                 | Feb. 22(Tues.) | Feb. 25 | May 8    | May 12   |
|                 | Feb. 28        | March 3 | May 15   | May 19   |

#### FINANCIAL MANAGEMENT COURSES UNDER DEVELOPMENT

The Center will develop the following courses during the fiscal year:

Financial Management in Federal Grants  
Treasury and OMB Reporting  
Payroll Accounting  
Property Accounting

Further details on these courses will be announced at some future date.

## INFORMATION METHODS TRAINING

### DESIGN OF A MANAGEMENT INFORMATION SYSTEM

A four-day workshop which systematically explores each of the major elements of management information systems in a step-by-step approach. Lectures are used to introduce and explain topics. The focus will be on the design of an information system task by participant workteams and will cover such topics as systems objectives, report design, documentation, file structure, classification and coding, cost control and evaluation of the system.

Tuition: \$200

Schedule: May 8-11

### EXECUTIVE SEMINAR IN STATISTICAL SCIENCE FOR MANAGEMENT

A three-day broad introduction to statistical science for executives covering principal theories, practical uses, and managerial implications of statistics. An informational program with illustrations to demonstrate the usefulness of statistics in management.

Tuition: \$125

Schedule: March 6-8

### INTERGOVERNMENTAL AFFAIRS FELLOWSHIP PROGRAM FOR 1972

A three-month fellowship program for career grant-in-aid administrators, in grade levels GS-14 and above, consisting of a comprehensive and intensive orientation, weekend seminars, and a ten-week study/work assignment with host state and local governments. This program is designed to provide Federal careerists with a first-hand look at problems of administering grant-in-aid programs at state and local levels; to improve person-to-person communication; to develop a deeper understanding of the major social and economic problems to which grant programs are addressed; and to encourage cooperative and multigovernmental approaches to problem solving.

Tuition & Schedule: Details to be announced.

### MANAGEMENT INFORMATION THEORY AND PRACTICE

A three-day familiarization program covering major concepts of information as a critical input to and product of decision making, including selective examples of current and potential single agency and interagency systems. Lectures,

briefings, and discussions cover such topics as definitions of information, management and staff roles and functions, systems elements, and supportive systems in such areas of management concern as manpower programs, welfare, education, transportation, drug abuse control, and law enforcement.

Tuition: \$170

Schedule: June 12-14

#### MATHEMATICS FOR MANAGEMENT

A ten-day survey program for managers, supervisors, staff personnel, and analysts, conducted over a period of eight weeks covering mathematics and calculus, statistics and probability, and applications of modern analytical techniques. A college level course emphasizing theory and practice of mathematical science in government operations.

Tuition: \$275

Schedule: April 18-June 7

#### OPERATIONS RESEARCH ORIENTATION

A three-day program designed to provide a general introduction to the classes of analytic techniques known as Operations Research/Systems Analysis. The underlying management concepts, basic methodology and classification and description of techniques and their uses will be covered.

Tuition: \$125

Schedule: March 20-22

#### RANDOM SAMPLING IN GOVERNMENT OPERATIONS

A three-day workshop designed to familiarize participants with the comprehensive field of random (statistical) sampling. Special emphasis is placed on random sampling as a practical fact-finding and problem-solving tool. The participants will apply the procedures covered in the program to practical exercises describing typical government transactions.

Tuition: \$150

Schedule: April 10-12

#### SCIENTIFICALLY BASED APPROACHES TO MANAGEMENT IN THE FEDERAL GOVERNMENT

This program for Management Interns will provide participants with an overview of the bases, major categories of techniques used, and future trends and issues

of scientifically oriented approaches in government administration. It will include such subjects as: the evolution and rationale of scientific aids in management; Systems Analysis, Operations Research; Program Evaluation; Management Information Systems; and new thrusts aimed at integrating scientific and technological methodologies with human requirements of the American system of government.

Tuition: \$105

Schedule: February 28-March 1

#### STATISTICAL SCIENCE FOR ANALYSIS

A three-day review of principal statistical methods and techniques used in analysis. Particular emphasis is placed on techniques of collection and evaluation of data in government programs.

Tuition: \$175

Schedule: January 10-12

#### SYSTEMS ANALYSIS FOR GOVERNMENT OPERATIONS

A three-day program designed for managers, staff professionals, administrators, and others who want to better understand and use systematic approaches to the problems of their agencies, or who work with those who are now using systems analysis.

Tuition: \$175

Schedule: March 13-15  
April 17-19  
May 22-24

#### TECHNIQUES AND METHODS OF OPERATIONS RESEARCH

A four-day "how to do it" type course designed to increase practical knowledge concerning and skills in using basic operations research techniques and methods in governmental problem solving. Lectures and case studies cover such topics as: allocation, competition, inventory, queuing, replacement, routing, search and sequencing problems; mathematical, probability techniques, simulation models and networking techniques.

Tuition: \$200

Schedule: February 8-10  
June 19-22

# THE CALENDER

(January-June 1972)

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## JANUARY

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|                |   |
|----------------|---|
| 10-12          | Statistical Science for Analysis                  |
| 10-14          | Governmental Bookkeeping and Accounting           |
| 10-February 28 | Practice Problems in Governmental Accounting      |
| 11-14          | Economic Investment Analysis                      |
| 14-March 3     | Practice Problems in Governmental Accounting      |
| 17-19          | Accrual Accounting Procedures in Federal Agencies |
| 17-21          | Accounting for Contract and Procurement Personnel |
| 19-21          | Workforce Estimating                              |
| 20-21          | The Federal Budget Process                        |
| 24-28          | Accrual Accounting Workshop                       |
| 24-28          | Workshop in Process Flow Charting                 |
| 26-28          | Program Evaluation Techniques I                   |
| 31-February 4  | Cost/Benefit Workshop                             |
| 31-February 4  | Finance in Agency Management                      |
| 31-February 4  | Value Analysis for Management Systems             |
| 31-February 10 | Budget Presentation and Justification             |

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## FEBRUARY

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|       |   |
|-------|---|
| 7-11  | Management Analysis and Review                |
| 8-10  | Techniques and Methods of Operations Research |
| 9-11  | Management Use of Financial Information       |
| 14-18 | Effective Planning Techniques                 |

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FEBRUARY

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|------------|--|
| 14-18      | Elements of Management Analysis  |
| 14-18      | Governmental Bookkeeping and Accounting                                    |
| 17-18      | The Federal Budget Process   |
| 22-25      | Economic Investment Analysis   |
| 23-25      | Accrual Accounting Procedures in Federal Agencies                          |
| 23-25      | Financial Management in the Federal Government                             |
| 23-25      | Network Techniques for Project Management                                  |
| 28-March 1 | Scientifically Based Approaches to Management in<br>the Federal Government |
| 28-March 3 | Budget Formulation   |
| 29         | Discount Rates and Procedures  |

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MARCH

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|       |   |
|-------|---|
| 1-3   | Problem Definition for Management                         |
| 1-3   | Workforce Estimating                                      |
| 6-8   | Executive Seminar in Statistical Science<br>in Management |
| 6-10  | Accounting for Contract and Procurement Personnel         |
| 6-10  | Work Simplification Techniques                            |
| 13-15 | Program Evaluation Techniques I                           |
| 13-15 | Systems Analysis for Government Operations                |
| 13-17 | Governmental Bookkeeping and Accounting                   |
| 20-22 | Accrual Accounting Procedures in Federal Agencies         |
| 20-22 | Operations Research Orientation                           |
| 20-24 | Cost Estimating Techniques                                |

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MARCH

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| 23-24     | The Federal Budget Process                   |
| 27-29     | Program Evaluation Techniques II             |
| 27-31     | Accrual Accounting Workshop                  |
| 27-31     | Elements of Management Analysis              |
| 27-May 15 | Practice Problems in Governmental Accounting |
| 31-May 19 | Practice Problems in Governmental Accounting |

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APRIL

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| 3-7       | Finance in Agency Management                      |
| 3-7       | Management Analysis and Review                    |
| 4-7       | Economic Investment Analysis                      |
| 10-12     | Random Sampling in Government Operations          |
| 10-12     | Workforce Estimating                              |
| 10-14     | Governmental Bookkeeping and Accounting           |
| 17-19     | Accrual Accounting Procedures in Federal Agencies |
| 17-19     | Systems Analysis for Government Operations        |
| 17,19,21  | Basic Data Analysis                               |
| 17-21     | Workshop in Process Flow Charting                 |
| 18-June 7 | Mathematics for Management                        |
| 20-21     | The Federal Budget Process                        |
| 24-28     | Cost/Benefit Workshop                             |
| 24-May 4  | Budget Presentation and Justification             |
| 26-28     | Management Use of Financial Information           |
| 26-28     | Problem Definition for Management                 |



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MAY

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| 1-5       | Budget Formulation                                |
| 1-5       | Correlation and Regression Analysis               |
| 1-5       | Elements of Management Analysis                   |
| 8-11      | Design of a Management Information System         |
| 8-12      | Governmental Bookkeeping and Accounting           |
| 8-19      | Planning, Programing, and Budgeting Seminar       |
| 15-17     | Accrual Accounting Procedures in Federal Agencies |
| 15-19     | Cost Estimating Techniques                        |
| 15-19     | Value Analysis for Management Systems             |
| 22-24     | Systems Analysis for Government Operations        |
| 22-26     | Accrual Accounting Workshop                       |
| 22-26     | Work Simplification Techniques                    |
| 30-June 2 | Economic Investment Analysis                      |
| 31-June 2 | Network Techniques for Project Management         |

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JUNE

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| 5-9   | Effective Planning Techniques              |
| 5-9   | Elements of Management Analysis            |
| 5-9   | Finance in Agency Management               |
| 5-15  | Budget Presentation and Justification      |
| 12-14 | Management Information Theory and Practice |
| 12-14 | Workforce Estimating                       |
| 12-16 | Governmental Bookkeeping and Accounting    |
| 12-16 | Management Analysis and Review             |

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JUNE

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| 14-16    | Program Evaluation Techniques I                   |
| 19-21    | Accrual Accounting Procedures in Federal Agencies |
| 19-22    | Techniques and Methods of Operations Research     |
| 19,21,23 | Basic Data Analysis                               |
| 19-23    | Cost/Benefit Workshop                             |
| 22-23    | The Federal Budget Process                        |
| 26-30    | Budget Formulation                                |
| 28-30    | Management Use of Financial Information           |
| 28-30    | Problem Definition for Management                 |
| 28-30    | Program Evaluation Techniques II                  |

# NOTES

## ADMINISTRATION

### Eligibility

Courses are open to all full-time employees of U.S. Government Departments and Agencies and the District of Columbia. Employees of state, local, international, and foreign governmental entities are eligible to attend under the same conditions as Federal participants. Grade level restrictions apply where stated. The prime requirement for attendance at any course is relevancy of the course material to the participant's duties. Under existing legislation, private citizens are not eligible for training under these programs.

### Nominations

Nominations should be submitted to:

The Management Sciences Training Center  
Bureau of Training  
U.S. Civil Service Commission  
1900 E Street, N.W., Room 7H39  
Washington, D. C. 20415  
(STOP 227 for intergovernmental mail)

Federal agencies use Optional Form 37. State and local governments and international organizations must submit a letter (original and two copies) from an authorized official including the following information:

1. Title and date of course
2. Name, salary (or other indication of responsibility level), address, position title, and brief description of duties of nominee
3. Office to which bill should be forwarded

Foreign governments must contact their embassies and arrange for attendance through the U.S. Department of State.

### Costs

The Management Sciences Training Center is operated as a completely reimbursable cost center. All costs of operating the Center, as well as developing and presenting training programs, must be recovered through tuition charges. The tuition for each course represents the actual cost of instruction and materials, plus an equitable pro rata of the costs of course development and administration of the Center.

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### The Management Sciences Training Center

- MATHEMATICS
- STATISTICS
- ECONOMICS
- OPERATIONS RESEARCH
- SYSTEMS ANALYSIS
- PLANNING, PROGRAMMING, BUDGETING
- PROGRAM EVALUATION
- MANAGEMENT ANALYSIS
- MANAGEMENT INFORMATION SYSTEMS
- QUANTITATIVE DECISION MAKING
- AUDITING
- ACCOUNTING
- BUDGETING
- SPECIAL INTERN AND FELLOWSHIP PROGRAMS